

Data sheet

Butterfly valve with electrical actuator VFY-WA

Description

**Features:**

- Spline driven one piece shaft connected to spherically machined disc allows high torque transmission i.e. quick response and minimum back-lash
- Long term reliability due to upper and lower anti-friction bearings
- Safe maintenance: shaft blow out protection with circlip
- Manual operation
- Position indicator

- Torque limiter
- Complete installation from factory - ready for installation

Main Data*:

- DN 32-200
- k_{VS} 40-2500 m³/h
- PN 16
- EPDM Liner
- Stainless steel or Ductile iron Epoxy Coated disc
- Medium:
 - Circulation water or chilled glycolic water up to 50 %
- Medium temperature:
 - 10 ... 120 °C (EP disc)
 - 10 ... 130 °C (SS disc)
- Nominal voltage:
 - 24 V; 50 Hz/60 Hz
 - 230 V; 50 Hz/60 Hz
- Control input signal: On/Off or 3-point
- Torque: 20-600 Nm
- Grade of enclosure: IP66/68
- Ambient temperature: -10 ... 55 °C
- Duty rating IEC34: cycle S4 (50 %)
- Approvals: **CE EAC**

* please check the Directive 2014/68/UE table at the end of the data sheet for appropriate product selection

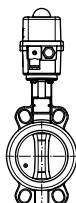
Ordering

Type VFY-WA 230 V

Picture	DN	k_{VS} (m ³ /h)	PN	T_{max} (°C)	Opening time (s)	Disc	Code No.
	32/40	62	16	130	12	Stainless Steel	082G7351
	50	79					082G7400
	65	174					082G7401
	80	275					082G7402
	100	496			7		082G7403
	125	883			12		082G7404
	150	1212			12		082G7405
	200	2500			30		082G7410
	50	79	16	120	12	Ductile iron Epoxy Coated	065B8440
	65	174			12		065B8441
	80	275			7		065B8442
	100	496			12		065B8443
	125	883			12		065B8444
	150	1212			12		065B8445
	200	2500			30		065B8446

Ordering *(continuous)*

Type VFY-WA 24 V

Picture	DN	k_{vs} (m ³ /h)	PN	T _{max} (°C)	Opening time (s)	Disc	Code No.
	32/40	62	16	130	12	Stainless Steel	082G7362
	50	79	16	120		Ductile iron Epoxy Coated	065B8450
	65	174			065B8451		
	80	275			065B8452		
	100	496			065B8453		
	125	883			065B8454		
	150	1212			065B8455		
	200	2500			065B8456		

Spare parts

Replacement actuator **AMB-Y**

Actuator type	for DN	Torque	Opening time (s)	Power consumption (W)	Supply voltage (V)	Code No.
ER20	32/40/50/65	20	12	15	230 V	082G7381
ER35	80	35	7	45		082G7382
ER60	100	60	12	45		082G7383
ER60	125-150	60	12	45		082G7415
VS150	200	150	30	45		082G7398
ER20	32/40/50/65	20	12	15	24 V	082G7388
ER35	80	35	7	45		082G7389
ER60	100	60	12	45		082G7390
ER60	125-150	60	12	45		082G7414
VS150	200	150	30	45		082G7399

Note:

Contact Danfoss sales organization regarding information about replacement actuators for VFY butterfly valves purchased before 01/2015.

Technical data

Actuator

Power supply	DN 32-200	V	100-240 ac; 100-350 dc 15-30 ac; 12-48 dc
Frequency (AC)		Hz	50/60
Control Input	DN 32-200		on/off or 3-point
Torque		Nm	20-150
Ambient temperature		°C	-10 ... 55
Duty Rating IEC34			S4 (50 %)
Grade of enclosure	DN 32-150		IP66
	DN 200		IP68 (1m, 72h)
CE marking in accordance with standards			Low voltage directive (LVD) 2006/95/EC; EN61000-3-2, EN61000-3-3, EN61000-6-4, EN61000-6-2
			EMC Directive 2004/108/EC: EN61010-1

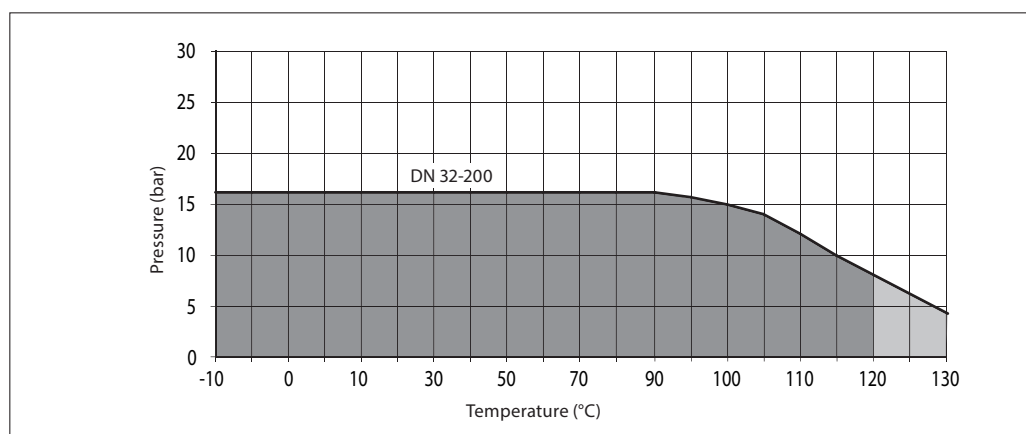
Valve

Nominal diameter		DN	32-200
k _{vs} value		m³/h	40-2500
Rotation angle			90°
Leakage rate			Acc. to PED 2014/68/EU, EN 12266-1, Rate A ¹⁾
Nominal pressure		PN	16
Medium			Circulation water, chilled glycolic water up to 50%
Medium temperature	EP disc	°C	-10 ... 120 (see PT diagram)
	SS disc		-10 ... 130 (see PT diagram)
Connection			Centering lugs (Wafer type)
Mounting			Mounting between flanges
Material			
Body	DN 32-200		Ductile iron EN GJS 400-15 ²⁾
Disc	Ductile iron EN GJS 400-15 (DIN GGG 40) with Polyamid coating or Stainless Steel		
Shaft	Stainless steel AISI 420		
Liner	EPDM		
Circlip	Steel XC 75 / Stainless steel		
O-ring	Nitrile/Viton		
Upper guide bush	Zinc coated S. + PTFE		
Lower guide bush	Zinc coated S. + PTFE		

¹⁾ No visible detectable leakage during the testing procedure

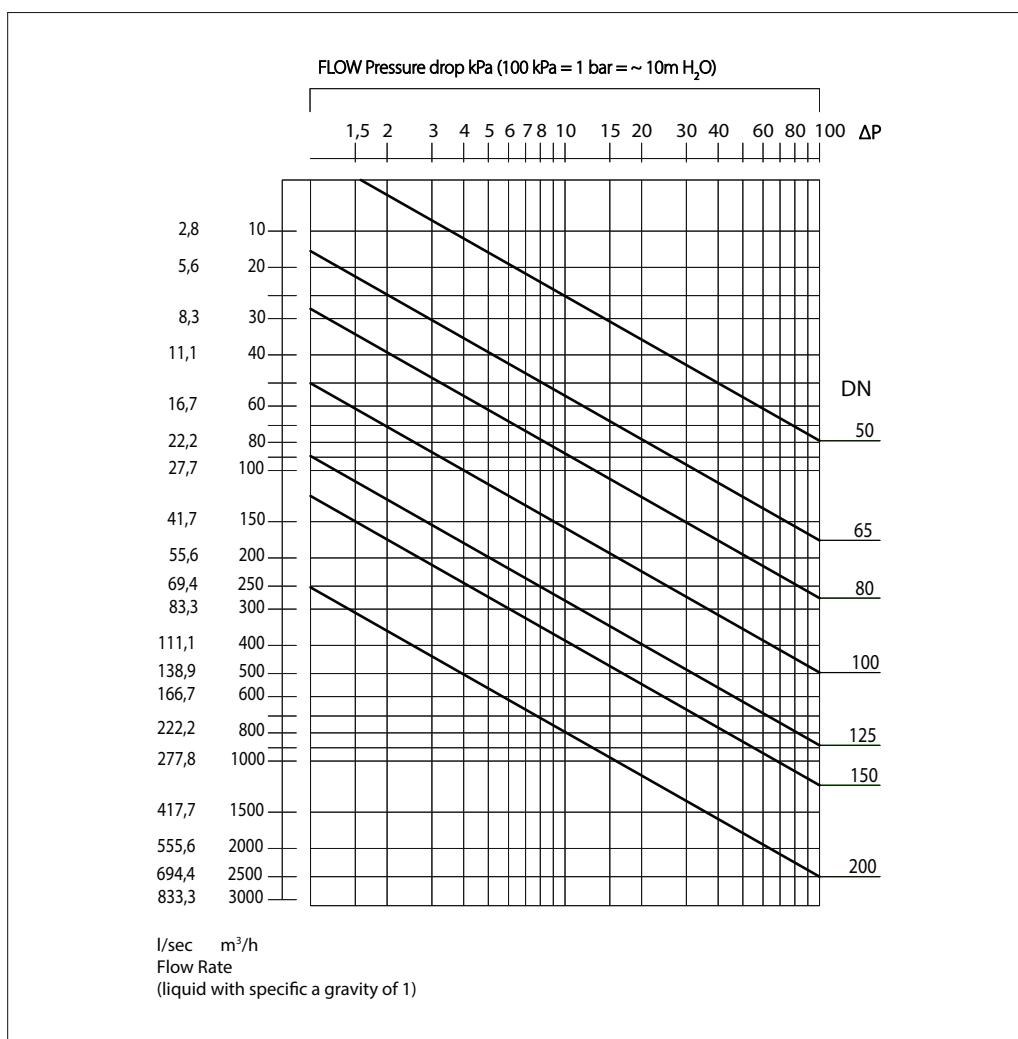
²⁾ Changed from Cast iron EN GJL 250 (DIN GG25) in Q4/2024

P-T diagram

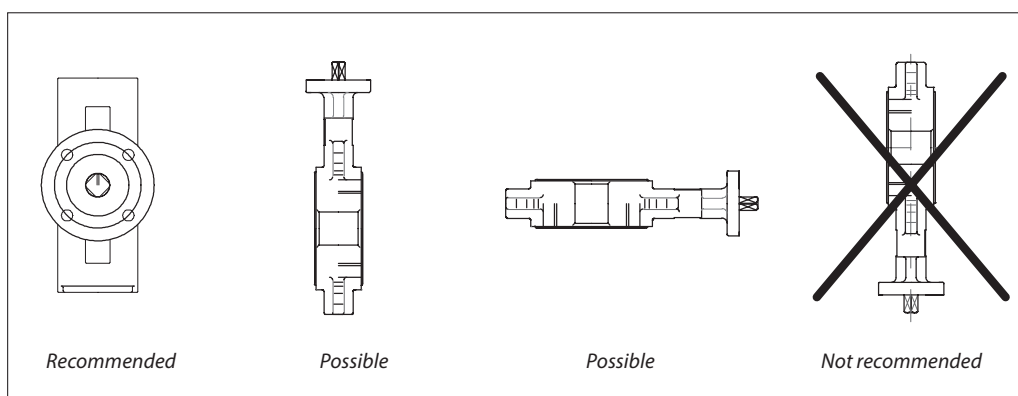


Headloss diagram

For water at 20°C

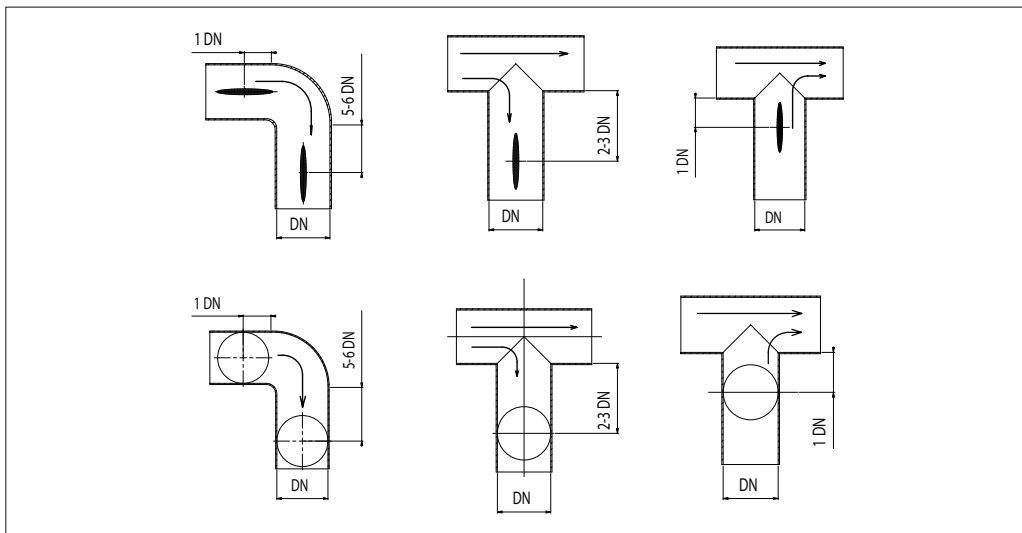


Installation positions



Installation conditions

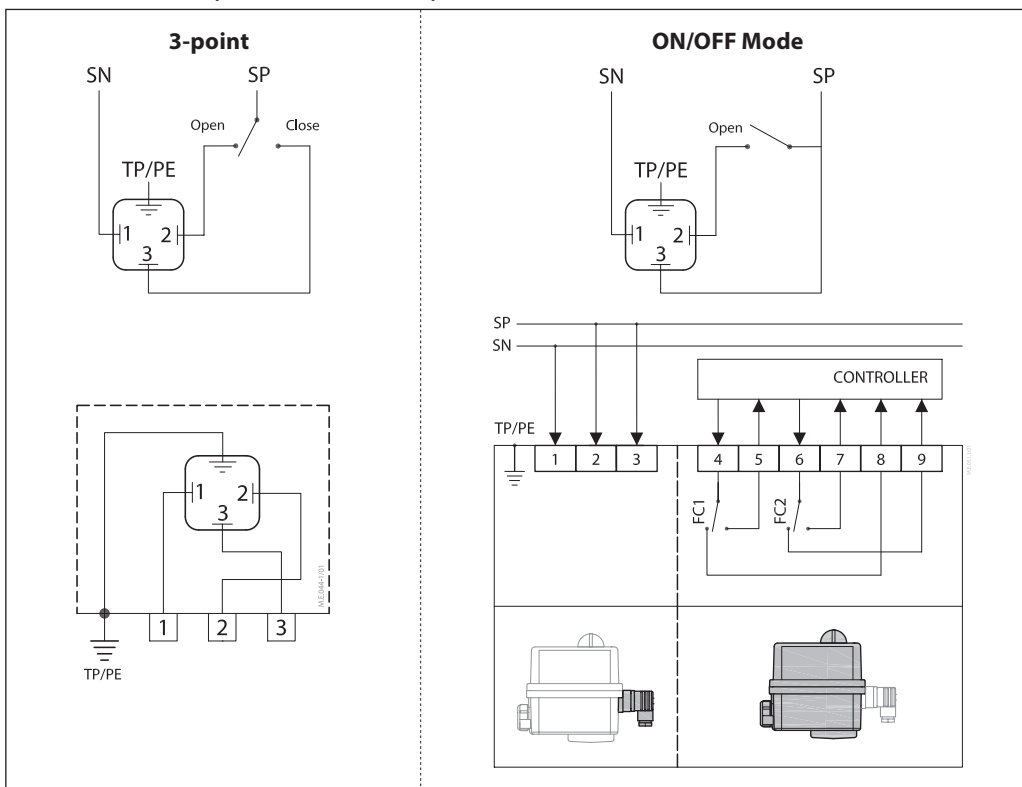
It is recommended that distances indicated below are respected in order to prolong lifetime of the valve. Mounting the valve close to pipework junctions (turbulent zones) increases wear.



Wiring



VFY-WA DN 32-150 (ACTUATOR TYPE ER)



Wiring input / output

1	SN	0 V	Neutral
2	SP	ON/OFF, 3-point	Power supply
3			
4	4 (SP)	SP output - max 5A	Common FC1
5			Feedback FC1
8			Feedback FC1
6	6 (SP)	SP output - max 5A	Common FC2
7			Feedback FC2
9			Feedback FC2

Drives end switches and feedback output

Valve position	Feedback			
	5	7	8	9
Open	1	0	0	1
Close	0	1	1	0
Neutral	0	0	1	1

Wiring (continuous)



VFY-WA DN 200 (ACTUATOR TYPE VS)

3-point

ON/OFF Mode

FC1 - feedback limit switch Open
FC2 - feedback limit switch Close
H - anti-condensation heater

Wiring input / output

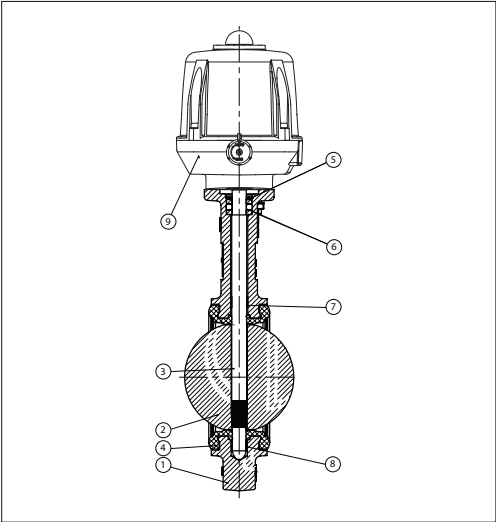
1	SN	0 V	Neutral
2	SP	ON/OFF, 3-point	Power supply
3			
4		SP output - max 5A	Common FC1
5			Feedback FC1
8			Feedback FC1
6		SP output - max 5A	Common FC2
7			Feedback FC2
9			Feedback FC2

Drives end switches and feedback output

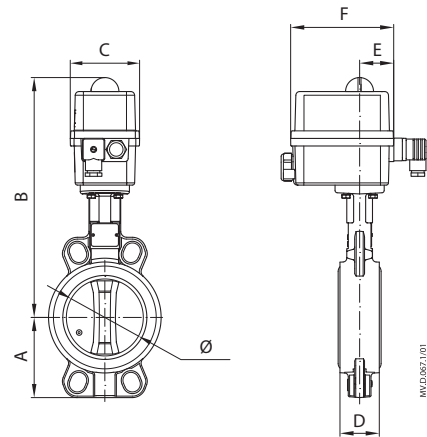
Valve position	Feedback			
	5	7	8	9
Open	1	0	0	1
Close	0	1	1	0
Neutral	0	0	1	1

Design

- 1. Body
- 2. Disc
- 3. Shaft
- 4. Liner
- 5. Circlip
- 6. O-ring
- 7. Upper guide bush
- 8. Lower guide bush
- 9. Actuator

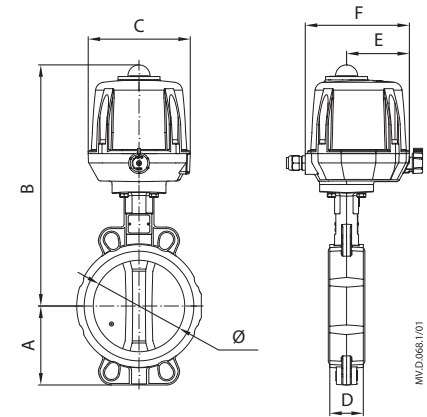


Dimensions



VFY-WA
(with actuator AMB-Y ER for DN 32 - 150)

DN	Ø	A	B	C	D	E	F	Weight (kg)
32/40	43	57	282	92	33	45	136	3.3
50	54	62	288	92	43	45	136	3.4
65	70	70	297	92	46	45	136	4.5
80	85	89	303	92	46	45	136	4.6
100	100	105	351	128	52	55	151	6.4
125	125	120	366	128	56	55	151	8.5
150	150	131	355	128	56	55	151	10.5



VFY-WA
(with actuator AMB-Y VS for DN 200)

DN	Ø	A	B	C	D	F	E	Weight (kg)
200	200	166	426	170	60	174	69	16.8

Data sheet

VFY-WA

Directive 2014/68/UE
Equipments under pressure

Products manufactured in conformity with the requirements of the directive, according to pressure, DN and fluid. Relevant for countries following this Directive (ie, PED)

Family		DN (mm)	Cat.	Mounting	PFA	PS				
					water	L1	L2	G1	G2	
VFY DN32 to 350 mm with EPDM liner	10 bar	32 to 100	4\$3	Flanges	10	10	10	-	10	
				End of line	6	6	6	-	6	
		125 to 350	I	Flanges	10	10	10	-	10	
				End of line	6	6	6	-	6	
	16 bar	32 to 100	4\$3	Flanges	16	16	16	-	10	
				End of line	12	12	12	-	10	
		125	I	Flanges	16	16	16	-	10	
				End of line	12	12	12	-	10	
		150	I	Flanges	16	10	16	-	10	
				End of line	12	6	12	-	10	
		200 to 300	I	Flanges	16	10	16	-	10	
				End of line	10	6	10	-	10	
		350	I	Flanges	16	10	16	-	10	
				End of line	8	6	8	-	8	
	20 bar	32 to 250	4\$3	Flanges	20	-	20	-	-	
				End of line	12	-	12	-	-	
		300 to 350	I	Flanges	20	-	20	-	-	
				End of line	12	-	12	-	-	
		25 bar	32 to 150	4\$3	Flanges	25	-	25	-	-
					End of line	16	-	16	-	-
VFY DN400 to 1200 mm with EPDM liner	10 bar	400 to 1200	I	Flanges	10	10	10	-	-	
				End of line	6	6	6	-	-	
	16 bar	400 to 1200	I	Flanges	16	-	16	-	-	
				End of line	8	-	8	-	-	
	20 bar	400 to 600	I	Flanges	20	-	20	-	-	
				End of line	10	-	10	-	-	
PS: Maximum allowable pressure (bars) in accordance with directive 2014/68/EC PFA: Allowable operating pressure (bars) for supply, distribution and disposal of water				L1: Group 1 liquid - Hazardous fluid category						
				L2: Group 2 liquid - Other fluids						
				G1: Group 1 gas - Hazardous gas category						
				G2: Group 2 gas - Other gasses						

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